## REMARKS

In the Office Action mailed June 3, 2004, claims 25-41, 43, 44, and 46-53 were rejected for allegedly failing to comply with the written description requirement. Claim 53 has been cancelled and claims 25 and 40 have been amended to remove various recitations. Claims 28 and 34 have been amended to be dependent on claim 25. Therefore, after entry of this amendment, claims 25-41, 43, 44, and 46-52 will be pending in the Application. Applicant believes that the claims are in condition for allowance.

### Claim Rejections

#### A.        Claim 25

Claim 25 stands rejected for allegedly failing to comply with the written description because the following recitations are allegedly are not described in the application as originally filed in such a way as to reasonably convey to one skilled in the relevant art that the inventor had possessed the claimed invention: (a) "at least some of said parameters $X_i$ involved exhibit interfering effects on the desired properties $Y_j$," (b) "said given parameter data and associated property data being essentially statistically insufficient for the purposes of quantifying said property behavior mathematical relation in the case that said relation is to be used to find optimal parameter values for said process to be optimized for only one of said set of $k$ properties $Y_j$ characterizing the product," and (c) "said property behavior mathematical relations for said set of $k$ properties $Y_j$ characterizing the product."

Claim 25 has been amended to remove the recitation "said given parameter data and associated property data being essentially statistically insufficient for the purposes of quantifying said property behavior mathematical relation in the case that said relation is to be used to find optimal parameter values for said process to be optimized for only one of said set of $k$ properties $Y_j$ characterizing the product." Therefore, the rejection with respect to this recitation is now moot.

The Office Action, at pages 2 and 3, states that page 1 (of the Specification )"is directed to prior art production processes further characterized as being "not unusual" that some process parameters exhibit interfering effects on desired properties," and that this "phraseology therefore is not indicated as being requied or even disclosed as being part of the instant invention." Applicant respectfully submits that while the subject matter discussed at page 1 is in the "Description of the Prior Art" section, it relates to well know effects in production processes. These effects are that changing certain "processing parameters" cause changes to "properties" of the final product that are different than or oppose changes made to other "properties" of the final product by changing different "processing parameters". As such, Applicant submits that the processes to which the methods and systems described in the instant application apply include some processes where "interfering processing parameters" exist and those which there are no "interfering processing parameters."

In addition, Applicant submits that the specification recites that system 10 includes "a parameter interaction module 20, the function of which consists of identifying by statistical analysis from experimental data, *which remaining parameters are significantly correlated.*" (*emphasis added*) (Page 8, lines 18-21). This clearly indicates that there are certain processes within the scope of the application that have parameters that are correlated or have a reciprocal, e.g. inverse, relationship.[1] Since an inverse relationship is one that is clearly interfering, the specification supports an embodiment where two or more parameters "interfere" with each other with respect to one or more properties of a final product.

The Examiner has also objected to the language "said property behavior mathematical relations for said set of $k$ properties $Y_j$ characterizing the product," because "properties $Y_j$ are cited as characterizing a product not "property behavior mathematical relations." (Office Action at page 4.) Applicant respectfully submits that the recitation at issue is not directed to a situation, nor can it be read to be directed to a situation, where the "property behavior mathematical relations" characterize the product. The plain meaning of the phrase is one where "property behavior

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[1] Mirriam –Webster On-Line Dictionary for "correlate" and "reciprocal."

mathematical relations" are created using "for said set of $k$ properties $Y_j$," and where "said set of $k$ properties $Y_j$" characterize the product. Applicant respectfully submits that this is in line with the disclosure of the specification as admitted by the Examiner.

Claims 26-39 depend from claim 25 and as such are allowable due to, at least, their dependence on claim 25.

**B.      Claim 40**

Claim 40 stands rejected for allegedly failing to comply with the written description because the following recitations are allegedly are not described in the application as originally filed in such a way as to reasonably convey to one skilled in the relevant art that the inventor had possessed the claimed invention: (a) "in which process at least some of said parameters $X_i$ involved exhibit interfering effects on the desired properties $Y_j$," (b) "$n$ being greater than two," and (c) "said property behavior mathematical relations for said set of $k$ properties $Y_j$ characterizing the product."

Claim 40 has been amended to remove the recitation "$n$ being greater than two." As such, the rejection with respect to this recitation is now moot.

In addition the recitations (a) "in which process at least some of said parameters $X_i$ involved exhibit interfering effects on the desired properties $Y_j$," and (c) "said property behavior mathematical relations for said set of $k$ properties $Y_j$ characterizing the product," have been addressed with respect to claim 25 and are therefore described in the Application as originally filed for the same reasons as stated with respect to claim 25.

Claims 41, 43, and 46-52 depend from claim 40 and as such are allowable due to, at least, their dependence on claim 40

**C.      Claim 53**

Claim 53 stands rejected for allegedly failing to comply with the written description because the recitation that "$n$ being greater than two" is allegedly not

described in the application as originally filed in such a way as to reasonably convey to one skilled in the relevant art that the inventor had possessed the claimed invention:

Claim 53 has been cancelled and the rejection with respect to claim 53 is now moot.


## Allowability of the Claims With Respect To Mozzo And Martin

Claim 25 recites, amongst other things, "assigning values to a set of $k$ property weights $w_j$ representing relative importance of said properties $Y_j$ for the characterization of said product." Mozzo discloses "establishing response equations from an experimental design and/or by the analysis of the given data: $\underline{Y}j = f(u_i)$" and selecting a value $Yj^*$," where "$Yj^*$ is the weighted value of $\underline{Y}j$ (intended value)" and "$\underline{Y}j$ is the weighted value of $Yj$ given by the regression model $f(u_i)$." (Mozzo, Column 1, line 58 – Column 2, line 4). Further, it should be noted that $u_i$ is a function of the minimum and maximum of the input variable (X). As such all weighted values in Mozzo correspond to functions that are not related to an importance of the output variables but to either to intended output value, which is not a weighting but simply a designated desired output value, or input variables. This is clarified in the example described with respect to Figs. 1-3 and 4-8 where the values $P_1^*$ and $P_2^*$ are utilized as a desired output and not weighted in any way. (See, Mozzo, Column 4, lines 29-30 and 50-51). For at least this reason, claim 25 is allowable over Mozzo.

In addition, Applicant respectfully submits that Martin does not disclose or describe the above recitation and claim 25 is allowable over Martin as well.

Claims 26-39 depend from claim 25 and as such are allowable due to, at least, their dependence on claim 25.

Claim 40 recites, amongst other things, the same recitation as discussed above with respect to claim 25. Therefore, claim 40 is allowable for at least the same reasons as discussed with respect to claim 25 above.

Claims 41, 43, and 46-52 depend from claim 40 and as such are allowable due to, at least, their dependence on claim 40.

In view of the foregoing, reconsideration of the rejection and allowance of claims 25-41, 43, and 46-52 is respectfully requested.

Respectfully submitted,
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